

[Title of the Document] ABSTRACT

There is provided an intake air amount control system for an internal combustion engine, which controls the amount of intake air by executing both cam phase control and valve lift control, and is capable of enhancing response and accuracy of the intake air amount control, while avoiding interaction between the cam phase control and the valve lift control. In the intake air amount control system 1, an ECU 2 controls the amount of intake air according to a target valve lift Liftin\_cmd and a target cam phase Cain\_cmd. The Liftin\_cmd and Cain\_cmd are respectively calculated as the sums of master values Liftin\_cmd\_ms and Cain\_cmd\_ms for causing an actual intake air amount Gcyl to converge to a target intake air amount Gcyl\_cmd, and slave values Liftin\_cmd\_sl and Cain\_cmd\_sl set according to the master values Liftin\_cmd\_ms and Cain\_cmd\_ms (steps 56 and 64). In a lift master mode, Cain\_cmd\_ms is set such that Cain\_cmd\_ms = 0 holds (step 63), and in a phase master mode, Liftin\_cmd\_ms is set such that Liftin\_cmd\_ms = 0 holds (step 55).